

Fowlow, Jeffrey

From: Holcomb, Ron (ECY) <rho1461@ECY.WA.GOV>
Sent: Friday, March 22, 2019 11:58 AM
To: Smith, Warren
Cc: Duerr, Miriam (ECY); Meyers, Alison (ECY); Byers, David (ECY); Fowlow, Jeffrey
Subject: EcoLab Aluminum Phosphide Fire

Captain Smith,

Thanks for the great response and coordination with Ecology during the EcoLab Aluminum Phosphide incident that started around 1645 on March 19, 2019. This was certainly a unique and challenging situation.

Because the actions of EcoLab employees resulted in a fire producing toxic gases, Ecology will be following up with the company through our Hazardous Waste and Toxics Reduction Program to ensure this kind of incident does not happen again.

I also want to make sure that the Tacoma Fire Department (TFD) has an accurate account of what happened at the site after TFD departed the scene at 2245 on 3/19/19.

As you know, the agreed upon plan of operation as advised by the product manufacturer's expert we talked to in California and an expert in Germany was to spread the reacting material from the two 55-gallon drums (the dry deactivation "chambers") onto the ground to encourage and complete the reaction of the aluminum phosphide by exposing it to more air (rather than keeping the material confined in the two drums). That operation was accomplished by EcoLab manager Michael Carette-Meyers and one of his workers (Trevor) using a fork lift, shovels, and brooms. At that time, the material appeared to have mostly stopped reacting with only a few small flare-ups. TFD was on-scene during this, but left shortly after.

Ecology remained on-scene because we wanted to monitor the situation in case there were any delayed reactions or changes that might take time to develop.

At approximately 2300 while we were in this "wait-and-monitor" the situation mode, Mr. Carette-Meyers began preparing and staging drums (large plastic garbage containers and 55-gallon metal drums) on pallets for the next phase of the operation (the water solution for the "wet deactivation treatment" phase as advised by the product manufacturer). This did not immediately raise our concern since we believed it was prep work to have the drums in place for when they would be needed after the residue material fully reacted-out and cooled as advised by the product manufacturer and the expert in Germany.

At approximately 2310, without asking our permission or letting us know what he intended to do, Mr. Carette-Meyers and his worker began shoveling the material into the staged containers. Mr. Carette-Meyers undertook this operation independently and without permission.

Due to the toxic atmosphere in and around the facility, Ecology was not in a position to enter the facility and stop this operation. From our vantage point, we observed no immediate reaction with the material when it was placed into the drums of the water treatment solution. There were a total of eight (8) containers that included four (4) large plastic garbage cans and four (4) 55-gallon metal drums. Because there was no immediate reaction, it initially appeared that the material must have fully reacted and was ready for this second deactivation phase.

At 2348, I received a call from you as previously agreed upon to check on the situation. I informed you about Mr. Carette-Meyers actions and that the situation appeared to be stable to the point that Ecology was considering departing the scene. Minutes after our phone conversation, however, at 2355 the first set of five (5) containers filled by Mr. Carette-Meyers spontaneously and violently reacted resulting in flames and a significant smoke plume. It was at that time that I called you and requested TFD to return to the scene.

As TFD observed on its return, Mr. Carette-Meyers began using a water hose to add water to the reacting drums. Again, this action was taken without Mr. Carette-Meyers asking for or being granted permission from TFD or Ecology. It took repeated requests, with increasing urgency, from TFD for Mr. Carette-Meyers to finally stop applying water to the drums.

At 0017 on March 20, 2019, I was unsuccessful in contacting the manufacturer's U.S. expert but then made contact with the manufacturer through CHEMTREC. The Safety Officer for the company told me she would attempt to reach their expert and have him call me. At 0112 and 0131 we talked to the product manufacturer's experts (U.S. and abroad) who advised us there were no further options available other than to isolate the area and let the reaction continue until completion, which could take up to 24 hours. (The product manufacturer's experts clearly indicated that a number of missteps were taken on the part of EcoLab during this incident.)

At 0107, Ecology requested air monitoring support from the U.S. Environmental Protection Agency (EPA). EPA arrived on-scene at 0251.

At 0340, Ecology and EPA directed EcoLab to hire an environmental contractor. The National Response Corporation (NRC) was hired and on-scene at 0530.

At 0550, TFD reported that heat monitors indicated the drums were stable. There had not been any visible reactions for several hours, the gas plume had dissipated, and air monitoring results showed that the off-site air was clear. After meeting with Ecology, EPA and NRC and agreeing on what should trigger calls to the fire department, TFD left the scene at approximately 0630.

Ecology and EPA remained on-scene and worked with NRC and Mr. Carette-Meyers to develop a plan of action for drum and air monitoring, site cleanup and proper packaging and final disposal of the material. There were three instances of short-term reactions in the drums around 1000 and TFD was notified.

Although the original plan had been to "stir" the material in the drums at midnight, EPA and Ecology agreed to allow NRC to conduct that operation at 2000 on March 20, 2019. I contacted the TFD via 911 to advise of this change in plans. I received a return call from Michael Boulware and I briefed him of the situation. During this operation there was only one container that experienced a small amount of bubbling. All of the drums/containers were thoroughly mixed and no further reactions took place.

The material was transferred into proper drums mid-morning on March 21, 2019 without any reactions. The drums will remain on-site until waste profiling is completed and then they will be transported off-site for proper disposal.

Please provide this information to TFD Incident Commander Jim Scott and any other department personnel that may need it for reporting or debriefing purposes. The times listed are approximate so please let me know if any of the times or information varies significantly from TFD documentation.

And please feel free to contact me if you have any questions about Ecology's response to this incident.

Thanks again for the great response, support, and coordination during this unfortunate incident.

Ron Holcomb
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